J. H. BROWN & J. GOULDBOURN.

MACHINE FOR USE IN MANUFACTURE OF BOOTS AND SHOES.

APPLICATION FILED AUG. 9, 1909.

1,014,046.

Patented Jan. 9, 1912.

2 SHEETS—SHEET 1.

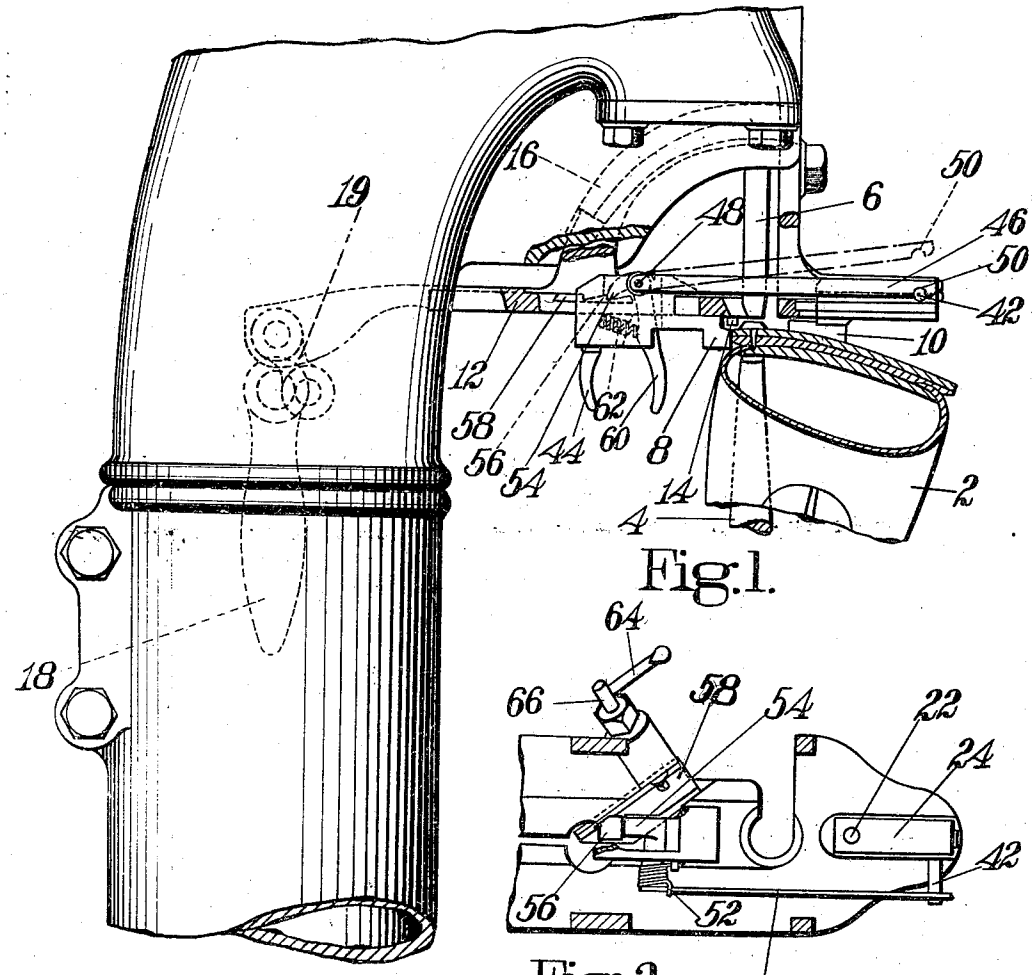

Fig. 1.

Fig. 3.

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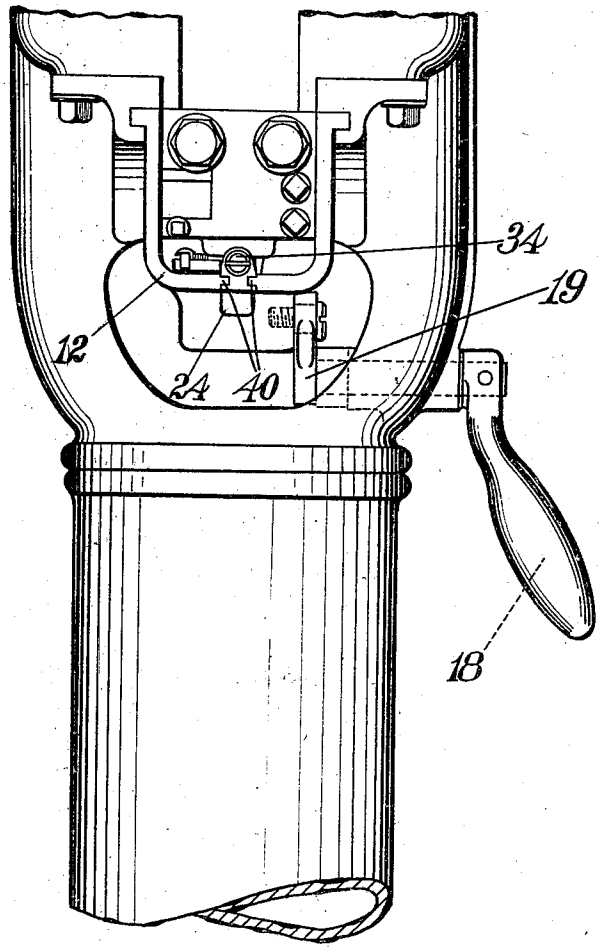

Fig. 2.

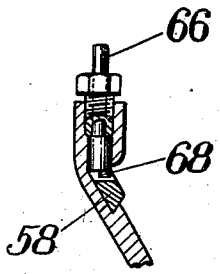

Fig. 6

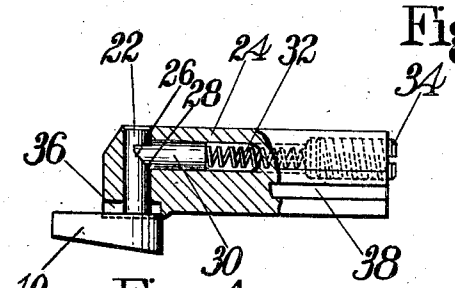

Fig. 4.

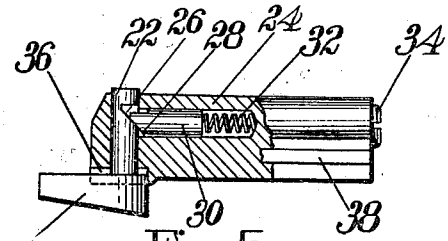

Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN HENRY BROWN AND JOSEPH GOULDBOURN, OF LEICESTER, ENGLAND, ASSIGNORS TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

MACHINE FOR USE IN MANUFACTURE OF BOOTS AND SHOES.

1,014,046. Specification of Letters Patent. Patented Jan. 9, 1912.

Application filed August 9, 1909. Serial No. 511,989.

To all whom it may concern:

Be it known that we, JOHN H. BROWN and JOSEPH GOULDBOURN, subjects of the King of England, residing at Leicester, in the county of Leicester, England, have invented certain Improvements in Machines for Use in Manufacture of Boots and Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to work locating means for use in boot and shoe machinery. In particular the invention relates to rests and gages which are especially applicable to machines for successively inserting fastenings and which are preferably constructed and arranged to coöperate in the insertion of more than one row of fastenings.

The general purpose of this invention is to render such machines more efficient by constructing and arranging them in such manner that the work is better supported and more easily fed and that it is fed with greater certainty and uniformity than has been the case with machines as heretofore constructed.

To this end the invention contemplates the provision in a machine of the class described of a rest which is constructed and arranged to move in a direction normal to the tread face of the boot or shoe sole against which it is adapted to bear. Conveniently the rest may be arranged to be held yieldingly against the tread face of the sole so as to be kept in contact therewith when the sole is depressed in the operation of the machine, particularly during the depression of the sole to permit the feeding operation to take place, and means may be provided to limit the range of the yielding movement.

The movement of the rest during the work release constitutes an important feature of the invention and contributes much to the certainty and uniformity of the work feed especially when the rest is employed with machines for inserting hobnails or the like.

The invention further contemplates the combination with a yielding or other rest for the tread face of the sole and a gage to bear against the side of the sole or the side of the upper, of means, such for example as a ratchet and detent, to maintain a predetermined correlation between the rest and gage when there is a relative movement between said rest and gage and the fastening inserting mechanism. Conveniently the said means may be arranged to be disconnected.

Another important feature of the invention is the provision of a gage and rest which are arranged to move in guides which extend in the same direction along the support and the provision of a sole rest which may be withdrawn from the machine when the correlating means hereinabove referred to is disconnected.

A preferred embodiment of the invention will now be described by the aid of the accompanying drawings, but it is to be understood that the invention is not necessarily restricted to the precise construction and arrangement hereinafter set forth.

In the accompanying drawings,—Figure 1 is a side elevation of a portion of the machine to which the preferred embodiment of the invention has been applied; Fig. 2 is a front elevation of the parts shown in Fig. 1; Fig. 3 is a plan with parts broken away of the support for the rest and gage hereinafter described; Fig. 4 is a side view of the rest, partly in section, and drawn to a scale which is larger than that of Fig. 1, showing in detail the means for making the rest yielding; Fig. 5 is a view similar to Fig. 4, showing the parts in yielding position; and Fig. 6 is a detail of an adjusting device shown in Fig. 3.

Referring to the drawings, a boot in position for receiving an outer row of nails is indicated at 2 in Fig. 1. The boot is supported by the horn 4 while the nails are inserted in the line of the nail driver 6, as shown in this figure.

It will be noted that the invention is shown as applied to a machine for inserting hobnails. The outer edge of the sole of the boot abuts against a gage 8 while the tread of the sole is pressed up against a rest 10 which is positioned on the side of the row of nails opposite to that upon which the gage 8 is located. Both the gage 8 and the rest 10 are carried on a supporting member 12 having on its under surface an abutment 14 against which the bottom face of the boot is pressed by the horn 4. The supporting member is carried on guides 16 which en-

able the supporting member together with the gage 8 and rest 10 to be canted in unison to suit the curvature of the bottom face of the sole. The support 12 is adjusted by means of the handle 18. When the horn 4 is dropped to release the work so that it may be fed by any suitable means not herein shown, it is found that the handling of the work is greatly facilitated by constructing and arranging the rest 10 so that it will yieldingly depress the shoe and hold it between the rest and the tip of the horn with sufficient force to steady the shoe but not with sufficient force to retard the feed of the work. In the preferred embodiment of the invention this result is obtained by mounting the rest 10 which preferably has its under face slightly beveled, to confrom approximately to the contacting face of the work, on a short rod 22, adapted to rise and fall in a carrier 24, as shown in Figs. 4 and 5. The rod 22 has a recess or inclined face 26 engaged by a correspondingly inclined face 28 on the end of a plunger 30 which is carried in a recess in the rest carrier 24. The inclined face 28 is kept in contact with the incline 26 by a spring 32 that is placed behind the plunger in the recess and is held by a set screw 34. The rest carrier 24 is formed with a cut-away part 36 located below the hole that receives the rod 22 to hold the rest 10 without danger of its turning. The carrier is provided with a groove 38 on each side adapted to receive corresponding projections or ribs 40 on the side walls of a slot in the support 12. The carrier is also provided with a pin or stud 42 projecting from it for a purpose hereinafter set forth. The gage 8 hereinbefore referred to as being also carried on the support 12 is mounted in dove-tailed or other guides which extend in the same direction as the guides 40 of the support 12. A handle 44 is provided to enable the operator to move the gage backward or forward along said guides. In order that the rest 10 may move in unison with the gage 8 and that a predetermined correlation may be maintained between them, they are mechanically connected by a link 46 mounted on a pin 48 extending from the gage 8. The other end of the link 46 has formed in it a gab 50 which engages the pin 42 extending from the rest carrier 24. The link is tilted about the pin 48 being normally held down in an operative position by a spring 52.

In order that the rest 10 and gage 8 may be locked in their adjusted positions with respect to the nail driver 6, the gage 8 carries a detent 54 which is pressed into engagement with a ratchet 56 on a slide 58 which is adjustable in the supporting member 12. The detent 54 has a lever 60 by which the operator can release the detent for backward movement of the gage 8 and there is a spring 62 for forcing the detent into engagement with the ratchet 56. The slide 58 upon which the ratchet 56 is formed provides for a fine adjustment of the gage 8 in relation to the nail driver 6. The slide is moved into adjusted position by means of a handle 64 on a stud 66 that has eccentrically mounted upon it a pin 68 in engagement with a stud in the slide 58.

In operation, after the outer row of nails has been inserted into the sole of the boot the operator presses the lever 60 toward the handle 44 to release the detent 54 from the ratchet 56, then moves the gage 8 along its guides in the supporting member 12 to allow the boot to come into proper relation to the nail driver to receive a new row of nails. The carrier 24 for the rest 10 is moved in unison with the gage 8 along its guides by means of the connecting link 46. When a central row of nails is to be driven into the sole the link 46 is raised as shown in dotted lines in Fig. 1, the rest 10 is then withdrawn from the machine and the gage 8 moved out of the way to allow the central line of the sole to come into direct relation to the nail driver.

The means for feeding the work and the means for depressing the horn to release the work for the feeding operation may conveniently be that disclosed in the respective United States Letters Patent to L. Goddu, No. 490,624, January 24, 1893 and 265,227, September 26, 1882.

As aforesaid it is to be understood that the invention is not limited to the precise construction and arrangement set forth, as it is obvious that this can be varied without departing from the spirit of the invention.

Having described our invention, what we claim as new and desire to secure by Letters Patent of the United States is:—

1. A machine of the class described, having in combination, a work abutment against which the work is pressed during the operation of the machine thereon and a work rest against which the work is also pressed during the operation of the machine thereon, means independent of said work rest for causing the work to be moved away from said work abutment between the successive operations thereon, and means for yieldingly maintaining said work rest constantly in engagement with the work.

2. A machine of the class described, having in combination, mechanism for operating upon the sole of a boot or shoe and an edge gage and a sole rest arranged to engage the sole only at points upon opposite sides of the point of operation of said mechanism and adjustable together transversely to the line of feed of the sole past said mechanism.

3. A machine of the class described, hav-

ing in combination, mechanism for successively inserting fastenings into a sole fed past said mechanism, an edge gage and a sole rest adjustable horizontally in a direction transverse to the line of the work feed, and means for positively correlating the movements of adjustment of said gage and rest.

4. A machine of the class described, having in combination, mechanism for successively inserting fastenings into a sole fed past said mechanism, an edge gage and a sole rest adjustable horizontally in a direction transverse to the line of the work feed, and disconnectible means for positively correlating the movements of adjustment of said gage and rest.

5. A machine of the class described, having in combination, mechanism for successively inserting fastenings, an edge gage and a work rest arranged to engage the sole only at points upon opposite sides of the point of operation of said mechanism and adjustable transversely to the line of work feed, guides in which both said gage and rest are movable to effect such adjustment, and means for simultaneously adjusting said gage and rest constructed to maintain the spaced relation of said parts.

6. A machine of the class described, having in combination, mechanism for successively inserting fastenings into the sole of a shoe, an edge gage and a work rest adjustable transversely to the line of the work feed, and disconnectible means for correlating the movements of adjustment of said gage and rest, said rest being removable from the machine when said means is disconnected.

7. A machine of the class described, having in combination, mechanism for successively inserting fastenings into the sole of a boot or shoe, an edge gage and a work rest arranged upon opposite sides of the point of operation of said mechanism and adjustable together transversely to the line of the work feed, means for effecting such adjustment and means for locking the parts in adjusted position.

8. A machine of the class described, having in combination, mechanism for inserting fastenings, an edge gage and a work rest arranged upon opposite sides of the point of operation of said mechanism and adjustable relatively to said mechanism and a ratchet and detent for maintaining the positional relationship to the inserting mechanism of both the rest and the gage after a relative adjustment.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN HENRY BROWN.
JOSEPH GOULDBOURN.

Witnesses:
ELEANOR PYWELL,
KATHERINE PEXTON.